Parts List and Specifications
Advanced Flasher Assembly Installed by Outside Party

1. One, twelve (12) inch black signal head with yellow lens, five (5) inch black back plate, tunnel-away visor and hardware to mount on top of post .

2. One, four and one-half (4-1/2) inch outside diameter pedestal post and pedestal base. Length of post is to be determined as needed to meet dimensions on the attached drawing. The horizontal distance of the post from the pavement shall be as per the attached drawings.

3. One Type C concrete base.

4. Minimum two inch (2") rigid conduit.

5. Signs and mounting brackets supplied by the Missouri Highway and Transportation Commission. Installation of signs is the responsibility of the outside party. Signs shall be installed using stainless steel straps and sign bracket.

6. One fused slip connector assembly required on each control or power cable conductor in the base of the post. If control enclosure is on the post, the fuse shall be 15 amps, if the control enclosure is remote, the fuse shall be 3 amps.

7. Wiring shall be as follows (120 Volt Systems):

Control Wires From Control Equipment to Beacon

Max. Length of Wire Run	Min. Cable Size
1100 Feet	#12 AWG
1850 Feet	#10 AWG
2830 Feet	#8 AWG

Power Cables From Power Source to Control Enclosure

Max. Length of Wire Run	Min. Cable Size
1220 Feet	#8 AWG
1950 Feet	#6 AWG

8. One NEMA 4 aluminum or stainless steel enclosure that contains the necessary equipment to operate the beacon as shown on the attached wiring diagram specified by the Commission. The enclosure shall be of sufficient size to house all specified equipment. The control enclosure shall be mounted on the control pedestal (Figure 8.3) or on the sign post as specified by the Commission. If the control enclosure is mounted on the sign post, it shall be located directly behind the warning sign.

   If a special event button is specified, it shall be mounted 3 feet to 5 feet 6 inches above ground and shall be in a separate lockable compartment. If the control enclosure is not mounted in this range, the button shall be housed outside the cabinet in a separate lockable enclosure. The special event button enclosure may be installed on the post below the control enclosure if necessary for accessibility. Wiring for the special event button shall not be exposed.

9. The power may be provided from a building owned by the outside party, by a separate power drop to the control pedestal with the meter installed on the control pedestal, or a solar power system as approved by the Commission. For 120 Volt power sources, a separate disconnect enclosure shall be provided on the control pedestal. The control pedestal shall be located as close to the right-of-way as possible or, if the power source is on the right-of-way, as close to the power source as possible.

10. All applicable equipment shall conform to the Missouri Department of Transportation Approved Products List for Traffic Signals and Highway Lighting Equipment and applicable Standard Specifications and Standard Plans. Applicable specifications and standard plans are as follows, but are not necessarily limited to this list:

Item	Standard Specs.	Standard Plan
Signal Heads	902.4.1	902.00
Pedestal Post and Base	902.4.3	
Concrete Bases	902.5.2	902.30
Rigid Conduit	902.5.3, 1060	902.10
Fused Slip Connector Assembly	901.5.8.3	901.02
Electrical Conductors	1061	
Circuit Breakers	901.4.4.6	
Disconnect Enclosure & Meter Box	901.4.5	

An equipment list of proposed items to be used and a layout of the entire installation shall be submitted to the engineer for approval before ordering equipment. All equipment to be maintained by the Commission shall be located on the right-of-way.

11. Solar powered equipment may be used if approved by the Commission. Solar installations must meet all of the location, material and operational conditions listed above. In addition the outside party shall be responsible for the maintenance of the solar panels, solar controller and storage batteries, this is in lieu of the power costs of a conventional installation.

12. For remote activation systems and signal phase activation systems, positive interconnection to the flashers shall be provided. The preferred method is "hard" wire supplying both power and control for the flashers. Radio interconnection can be allowed, however, the outside party shall be responsible for licensing and maintaining the radio equipment. Special events or remote activation shall be a normally open momentary connection.

13. If radio interconnect is used a control enclosure containing the control equipment described above will be provided for each flasher. Also the meter and power disconnect breaker box shall not be located on the flasher post. The power disconnect breaker shall be located within the right of way as close to the right of way line as possible.

POSSIBLE EQUIPMENT SUPPLIERS

Brown Traffic Products	Davenport, IA.	(800) 888-7078
Mid American Signals	Kansas City, KS.	(800) 726-1325
Naztec, Inc.	Sugar Land, TX.	(281) 240-7233
Pinkley Sales	Oklahoma City, OK.	(405) 755-0858
Traffic & Transportation Products	Port Byron IL.	(800) 523-3401
Traffic Control Corp.	St. Louis, MO.	(314) 305-8000